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GROUNDWATER TREATMENT SYSTEM FEASIBILITY STUDY WORK PLAN

MONADNOCK COMPANY FACILITY
18301 ARENTH AVENUE
CITY OF INDUSTRY, CALIFORNIA

Prepared for:

TRW Inc.
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March 1995

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This work plan has been prepared under the supervision of Ms. Linda A. Niemeyer, a California-registered geologist. Her stamp and signature appear below.

Linda A. Niemeyer

Linda A. Niemeyer, R.G.

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Mr. Stephen Mulligan serves as the IDEA project manager. His signature below signifies that he helped prepare and review this work plan.

Stephen Mulligan

Stephen Mulligan

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1.0 INTRODUCTION

The Monadnock Company (Monadnock) facility is located at 18301 Arenth Avenue in City of Industry, California (see Figure 1 for site location). TRW Inc. (TRW), as a condition of the amended Cleanup and Abatement Order 88-057 (dated September 29, 1989) issued by the California Regional Water Quality Control Board - Los Angeles Region (RWQCB), is required to "determine any other contamination sources in the vadose zone on site [at the Monadnock facility] and evaluate threat to groundwater from residual contamination." To accomplish this goal, TRW has used a phased approach, whereby (1) potential sources of contamination in the vadose zone were identified and (2) the lateral and vertical extent of contamination was evaluated.

TRW has completed soil investigation and remediation efforts and conducted a groundwater investigation at the Monadnock site. Reports documenting these activities were submitted to the RWQCB on December 15, 1993 ("Closure Report on Soil Remediation at Monadnock Company Facility in City of Industry, California," dated December 1993) and July 27, 1994 ("Groundwater Investigation Report," dated July 1994), respectively. A summary of these activities is presented in Section 2.0. In accordance with the RWQCB request, TRW proposes to conduct an additional investigation of the impact of volatile organic compounds (VOCs) on groundwater and the potential remedial alternatives to treat the VOC-impacted groundwater. This work plan describes the tasks to be conducted during the groundwater remedial investigation (Section 4.0).

2.0 SUMMARY OF ENVIRONMENTAL INVESTIGATIONS AND REMEDIATION CONDUCTED AT THE MONADNOCK FACILITY

Discussions of the soil and groundwater investigations conducted to date, as well as soil remediation efforts, are presented in the following sections.

2.1 Soil Investigation

Environmental investigations at the Monadnock facility have focused on potential vadose zone contamination resulting from VOCs, the specific metals historically used at the facility, acids and bases, and cyanide. Results of these investigations indicated that subsurface soils beneath the Monadnock facility had been impacted by VOCs. Because of the elevated concentrations of VOCs in the subsurface soils, it was concluded that soil remediation would be undertaken in the impacted areas. A description of the soil remediation efforts is presented in Section 2.3.

Cyanide, cadmium, and chromium were detected in near-surface soil samples collected from several areas along the west side of the manufacturing building. Based on data collected during the environmental investigations, it was concluded that the vertical extent of these compounds in subsurface soils was limited to the near-surface and thus required no remediation. The RWQCB, in a letter dated August 3, 1992, concurred with this conclusion.

2.2 Groundwater Investigation

The groundwater investigation to date has included monitoring well sampling and analysis as well as Hydropunch sampling and analysis.

2.2.1 Groundwater Sampling and Analyses

To date, seven groundwater monitoring wells (Wells MW-1, MW-2, MW-3, MW-4, MW-7, MW-8, and MW-11) have been installed at the Monadnock site. The locations of these wells are shown on Figure 2. Groundwater sampling and analyses have been conducted in some or all of these wells by various environmental consultants and TRW from July 1986 to August 1994. Results of the chemical analyses of groundwater samples collected from these wells are shown in Table 1.

The results indicate that VOCs, chromium, cadmium, and cyanide are present in the groundwater beneath the Monadnock site. Detected VOCs range in concentration from the low micrograms per liter of water (μg/l) to the hundreds of μg/l. Concentrations of cadmium range from non-detection (detection limit of 1 μg/l) to 4.8 μg/l. Concentrations of chromium range from 6.4 μg/l to 162 μg/l. Concentrations of cyanide range from non-detection (detection limit of 10 μg/l) to 760 μg/l.

2.2.2 Hydropunch Sampling and Analyses

To assist in locating the leading edge of the shallow groundwater plume originating from the Monadnock site, Hydropunch sampling was conducted at two offsite locations (shown on Figure 2) on May 21, 1994. The Hydropunch sampling locations were selected using data from slug and short-term pump tests conducted at the Monadnock site in November 1992. Estimation of hydraulic conductivity values from slug and short-term pump test data and calculation of groundwater velocities suggested that the VOC groundwater plume may extend to the Presto Food Products (Presto) site located approximately 100 feet west of the Monadnock property boundary.

As shown by the data presented in Table 2, the concentrations of 1,1-dichloroethene (1,1-DCE) and trichloroethene (TCE) in the Hydropunch samples collected beneath the Presto site were similar in magnitude to the highest concentrations of these compounds detected in groundwater samples collected at the Monadnock site from July 1986 to August 1994 (Table 1) (both are hundreds of µg/l). Concentrations of tetrachloroethene (PCE) detected in the Hydropunch samples were one order of magnitude less than the highest concentrations of PCE detected in groundwater samples collected at the Monadnock site.

2.3 Soil Remediation

Remediation of elevated concentrations of VOCs in subsurface soils was accomplished using a vapor extraction system (VES). A summary of the remediation and confirmatory sampling program is presented in the report entitled "Closure Report on Soil Remediation at Monadnock Company Facility in City of Industry, California," dated December 1993. A copy of this report was submitted to the RWQCB on December 15, 1993.

Operation of the VES occurred from April 1993 through August 1993. During this time, the concentrations of VOCs in the soil gas steadily declined until concentrations were below the detection limit in all areas of the Monadnock site except the degreaser area within the manufacturing building. Concentrations of VOCs in the soil gas beneath the degreaser area were less than 7 micrograms per liter of gas (µg/l). As indicated by the results of subsequent confirmatory soil sampling and analysis, the concentrations of VOCs in the soil matrix beneath the degreaser area were below detection limits.

Based on these data, TRW concluded that residual VOC concentrations in the soil gas and soil matrix were below levels that would continue to affect underlying groundwater or present adverse exposure to human health or the environment. The RWQCB, in a letter dated May 6, 1994, agreed with these conclusions. However, because groundwater had already been impacted, the RWQCB requested that a groundwater investigation be undertaken.

3.0 HYDROGEOLOGIC CONDITIONS

The Monadnock facility is located in the southern San Gabriel Basin, a broad piedmont alluvial plain occupying the northern portion of the Los Angeles Basin. The site lies within the Puente Valley, a northwesterly-oriented sub-basin which merges with the main San Gabriel Basin approximately five miles northwest of the Monadnock facility. The site and vicinity are underlain by Quaternary alluvial deposits that comprise the basinfill sequence of the San Gabriel Basin. Although regionally this sequence is in excess of 4,000 feet maximum thickness, in the central portion of the Puente Valley where the Monadnock site is located, the approximate depth to bedrock beneath the alluvial sequence is about 100 feet.

Alluvial stratigraphy within the Puente Valley is complex and lithologic units are laterally discontinuous. Local and regional geologic data indicate the stratigraphy is comprised of an interfingering sequence of clay, silty and sandy clay, silty to clean sands, and clayey to sandy gravels. Boring logs for the Monadnock site indicate that the property is underlain by an alternating sequence of clayey and sandy units. The surficial unit consists of a silty to sandy clay that extends from the ground surface to a depth of approximately 15 feet. Beneath this clay, a sandy gravel unit with some clayey and silty intervals generally extends to a depth of about 30 feet. This sandy gravel is underlain by a silty clay to silt unit of variable thickness (generally 10 to 15 feet) which locally contains some gravels. Beneath this clay and silt unit, a silty sand with gravel is present, generally extending from a depth of about 40 feet to a depth of up to 90 feet, according to lithologic data from the two deepest boreholes advanced onsite [Borings MW-10 (abandoned by TRW in February 1991) and MW-11]. Below a depth of 90 feet, a clean gravelly sand occurs, the thickness of which has not been investigated.

The first occurrence of groundwater beneath the site is approximately 30 to 35 feet below ground surface (bgs), within the silty clay and silt unit of variable thickness described above. Six monitoring wells at the site extend to depths of between 45 and 60 feet bgs and are screened within the silty clay/silt unit and the underlying silty sand unit. One monitoring well, Well MW-11, extends to a depth of 97 feet bgs and is screened within the silty sand unit and the underlying clean gravelly sand encountered at a depth of 90 feet. Water-level data for the six shallow, water-table wells indicate that the direction of groundwater flow is to the west-southwest at a gradient of about 0.006.

Hydraulic conductivity estimates calculated from slug and short-term pump testing conducted in Wells MW-2 and MW-8 indicate values of approximately 17 and 127 gallons per day per square foot (gpd/ft^2), respectively. These values are consistent with values expected in fine-grained, silty to clayey materials and correspond to velocity estimates of about 20 and 150 feet per year, respectively. Contaminant migration rates would be expected to be less than these values.

4.0 PROPOSED GROUNDWATER INVESTIGATION

TRW proposes to conduct a groundwater investigation program at the Monadnock site. The objectives of the program are twofold:

- To further assess the lateral and vertical extent of groundwater impacted by VOCs originating from the Monadnock site
- To assess potential treatment alternatives to remediate the impacted groundwater

The program will consist of the following activities:

- The installation of one onsite and one offsite groundwater monitoring well
- The performance of aquifer testing (consisting of either pumping in the new onsite well or slug tests in multiple wells) to evaluate the characteristics of the uppermost interval of the saturated zone beneath the Monadnock site
- A feasibility study to select the most cost-effective system to treat groundwater

The following sections describe the program. The installation, development, and sampling of the groundwater monitoring wells will conform to the protocols outlined in the RWQCB document entitled "Requirements for Groundwater Investigation (Well Investigation Program)," dated May 1993.

4.1 Installation of Groundwater Monitoring Wells

Because the VOC plume appears to be located beneath the Presto site, TRW will install an offsite groundwater monitoring well (to be designated Well MW-12) at the approximate location shown on Figure 2. The purpose of Well MW-12 will be to monitor the concentration of VOCs in the groundwater prior to and after commencement of groundwater treatment. This location was chosen because, based on analytical results of Hydropunch sampling conducted in May 1994, it likely intersects the plume of VOC-impacted groundwater.

TRW will install an onsite monitoring well (to be designated Well MW-13) at the Monadnock site adjacent to the existing Well MW-2, as shown on Figure 2, for the purpose of conducting aquifer testing. It is anticipated that Well MW-13 may also serve as an extraction well during future groundwater remediation efforts. Existing Well MW-2, which extends to a depth of 45 feet bgs, is not screened to a sufficient depth to be used for aquifer testing or future remediation efforts.

Well installation procedures are presented in Appendix A. Well construction details are shown on Figures 3 and 4. The wells will be constructed of 4-inch diameter PVC blank casing and stainless steel wire-wrap screen. Presently, water-level elevations beneath the Monadnock site are between 30 and 35 feet bgs (based on measurement of water levels in the existing wells conducted in August 1994). The screen interval of Well MW-12 will extend from about 20 feet to 50 feet bgs (10 feet above the water table and 20 feet below the water table), in conformance with RWQCB guidelines. The screen interval for Well MW-13 will extend from about 20 feet bgs to 60 feet bgs, so that the screen interval will penetrate a greater portion of the silty sand unit (described in Section 3.0) than is penetrated by existing Well MW-2. The saturated portion of the screen interval in Well MW-13 is intended to be of the same general depth, and to encompass a similar lithologic interval, as existing Wells MW-7 and MW-8.

Prior to casing placement, the aquifer materials will be characterized using a sieve analysis to properly select the appropriate filter pack and screen perforation size. After placement of the casing, the filter pack will be installed to extend to a minimum of two feet above the top of the screened interval. Bentonite chips will be placed to an approximate thickness of two feet above the filter pack. A cement/bentonite grout will be used above the bentonite chips to approximately five feet below the ground surface. The final five feet will be completed using a cement seal. A locking, traffic-rated cover will be placed over each well.

The wells will be developed no earlier than 48 hours after installation. Well sampling will occur no sooner than seven days following well development. The wells will be surveyed to establish (1) the elevation of the top of each well casing (to the nearest 0.01 foot) relative to mean sea level and (2) the state plane coordinates of each well.

Soil cuttings will be placed in 55-gallon drums, with each drum labeled as to boring and depth. Wastewater generated during well installation and development will be placed in 55-gallon drums, with each drum labeled as to well location. The soil and wastewater will be left on site (i.e., either at the Monadnock or Presto sites) until the appropriate disposal method(s) is (are) determined from the analytical results.

4.2 Aquifer Testing and Analysis

Following completion of Wells MW-12 and MW-13, aquifer testing and analysis will be conducted. The objective of the testing will be to assess the hydraulic parameters necessary to select, design, and implement a groundwater remediation system for the uppermost interval of the saturated zone beneath the Monadnock site. The aquifer testing method will consist of either a long-term pump test or slug tests. The test method will be selected on the basis of lithologic evaluation of continuous core samples collected during drilling of Well MW-13.

4.2.1 Long-Term Pump Test

If the lithologic evaluation indicates that the range of hydraulic conductivity expected within the uppermost saturated interval is likely to be capable of supporting sustained pumping, a long-term pump test will be conducted using Well MW-13 as the pumping well. Wells MW-7 and MW-8, located approximately 45 and 95 feet, respectively, from Well MW-13, as well as Wells MW-3 and MW-12, will serve as observation wells and will be monitored for a potential drawdown response throughout the test. The pump test will be conducted for a minimum of 24 hours of discharge, if conditions permit, followed by post-discharge monitoring for a time sufficient to allow approximately 100 percent recovery of the static water level in the pumped well. The test will be conducted using a submersible pump; water-level data will be recorded using pressure transducers connected to an electronic data logger. Manual readings will also be recorded at periodic intervals. Discharge water will be contained in a tank prior to discharge to the stormwater drain; discharge of the water will conform to a National Pollutant Discharge Elimination System (NPDES) permit.

The data collected during the pump test will be evaluated using one or more techniques. Because heterogeneous lithologic conditions are expected within the interval to be pumped, and the response to pumping in the observation wells cannot be predicted, data analysis may include some or all of the following methods:

- Theis drawdown and recovery
- Cooper-Jacob time-drawdown and distance-drawdown
- Neuman delayed-yield

Transmissivity and storativity values will be estimated using appropriate methods, and hydraulic conductivity values will be calculated using estimates of the thickness of the tested interval.

4.2.2 Slug Tests

If the lithologic evaluation indicates that the uppermost saturated interval is not likely to be capable of sustaining long-term pumping, slug tests will be conducted in Wells MW-7, MW-8, MW-12 and MW-13. Each test will be conducted by submerging a mandrel in the well, allowing the water level to reach equilibrium, and then quickly removing the mandrel and monitoring water-level recovery to static conditions. The water level will be monitored before and during each test using a pressure transducer connected to an electronic data logger.

The data will be evaluated using the method of Bouwer and Rice, a commonly-used technique for analyzing slug test data. Hydraulic conductivity will be estimated for each tested well, and transmissivity values will be calculated using estimates of the thickness of the tested interval.

4.3 Groundwater Treatment System Feasibility Study

The hydraulic parameters estimated from aquifer testing and analysis will be used to evaluate potential extraction well yields and capture zones. These evaluations will be used in the feasibility study to assess the following groundwater treatment options:

- No action
- Extraction of groundwater and above-ground treatment (e.g., liquid-phase carbon adsorption, air stripping coupled with an integral air emissions control unit)
- In situ groundwater treatment (e.g., bioremediation)

These options will be assessed using the following evaluation criteria:

- Technical feasibility
- Potential to meet mandated regulatory agency requirements
- Cost effectiveness
- Operability of option (i.e., does the option require significant outlays of manpower or resources)
- Reliability of option
- Potential secondary environmental impacts of option (e.g., creation of hazardous waste, possible contamination of other media, nuisance)

5.0 REPORTING

Reporting will include monthly progress reports and a report describing the groundwater treatment system feasibility study.

5.1 Progress Reports

Monthly progress reports will be prepared and submitted to the RWQCB. The progress reports will outline the following topics:

- Activities conducted during the last month
- Summary of field data collected during the last month
- Problems encountered during the last month and their resolution
- Activities planned for the next month

5.2 Groundwater Treatment System Feasibility Study Report

A groundwater treatment system feasibility study report will be prepared and submitted to the RWQCB. This report will include the following items:

- Description of regional and local geology and hydrogeology
- Rationale for locations of the groundwater monitoring wells
- Well installation and development procedures and copies of boring logs
- Rationale for selection of aquifer test method (pump test or slug tests) and aquifer test protocols
- Results of aquifer testing
- Groundwater treatment system feasibility study
- Discussion of feasibility study results and recommendations

6.0 ANTICIPATED SCHEDULE

The anticipated schedule for the groundwater investigation program is presented on Figure 5.

7.0 HEALTH AND SAFETY PLAN

A Health and Safety Plan is presented in Appendix B.

TABLE 1. RESULTS OF CHEMICAL ANALYSES OF GROUNDWATER SAMPLES

WELL NUMBER/ SAMPLE DATES	1,1-DCE (µg/L)	1,1-DCA (µg/L)	CFM (µg/L)	1,2-DCA (µg/L)	1,1,1-TCA (µg/L)	TCE (µg/L)	1,1,2-TCA (µg/L)	PCE (µg/L)	CADMIUM (µg/L)	CHROMIUM (µg/L)	CYANIDE (mg/L)
DRINKING WATER STANDARD	6	5	N.E.	0.5	200	5	32	5	10	50	N.E.
MW-1/											
JUL 86	N.A.	N.R.	N.R.	N.R.	<25	<25	N.R.	<25	N.A.	N.A.	N.A.
SEP 86	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
NOV 86	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
FEB 87	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
MAR 87	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
SEP 87	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
FEB 88	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
JAN 89	N.A.	N.R.	N.R.	N.R.	ND	ND	N.R.	ND	N.A.	N.A.	N.A.
JUN 89	ND	N.R.	N.R.	N.R.	ND	ND	N.R.	ND	N.A.	N.A.	N.A.
JAN 90	ND	N.R.	N.R.	N.R.	ND	ND	N.R.	1.3	N.A.	N.A.	N.A.
JUN 94	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	N.A.	N.A.	N.A.
AUG 94	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	7.7	ND(.01)
MW-2/											
JUL 86	N.A.	N.R.	N.R.	N.R.	380	710	N.R.	310	N.A.	N.A.	N.A.
SEP 86	N.A.	N.R.	N.R.	N.R.	180	560	N.R.	600	N.A.	N.A.	N.A.
NOV 86	N.A.	N.R.	N.R.	N.R.	350	710	N.R.	770	N.A.	N.A.	N.A.
FEB 87	N.A.	N.R.	N.R.	N.R.	77	620	N.R.	190	N.A.	N.A.	N.A.
MAR 87	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
SEP 87	N.A.	N.R.	N.R.	N.R.	12	182	N.R.	102	N.A.	N.A.	N.A.
FEB 88	N.A.	N.R.	N.R.	N.R.	25	102	N.R.	78	N.A.	N.A.	N.A.
JAN 89	N.A.	N.R.	N.R.	N.R.	ND	120	N.R.	70	N.A.	N.A.	N.A.
JUN 89	180	N.R.	N.R.	N.R.	ND	270	N.R.	320	N.A.	N.A.	N.A.
JAN 90	840	N.R.	N.R.	N.R.	7	460	N.R.	410	N.A.	N.A.	N.A.
JUN 94	120	10	2.4	3.3	ND(1)	590	21	130	N.A.	N.A.	N.A.
AUG 94	160	8.6	1.3	3.4	ND(1)	390	19	100	ND(1)	162	0.57

TABLE 1. RESULTS OF CHEMICAL ANALYSES OF GROUNDWATER SAMPLES

WELL NUMBER/ SAMPLE DATES	1,1-DCE (μg/l)	1,1-DCA (μg/l)	CFM (μg/l)	1,2-DCA (μg/l)	1,1,1-TCA (μg/l)	TCE (μg/l)	1,1,2-TCA (μg/l)	PCE (μg/l)	CADMIUM (μg/l)	CHROMIUM (μg/l)	CYANIDE (mg/l)
DRINKING WATER STANDARD	6	5	N.E.	0.5	200	5	32	5	10	50	N.E.
MW-3/											
JUL 86	N.A.	N.R.	N.R.	N.R.	<5	<5	N.R.	<5	N.A.	N.A.	N.A.
SEP 86	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
NOV 86	N.A.	N.R.	N.R.	N.R.	6	4	N.R.	100	N.A.	N.A.	N.A.
FEB 87	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
MAR 87	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
SEP 87	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
FEB 88	N.A.	N.R.	N.R.	N.R.	2	2.6	N.R.	6.2	N.A.	N.A.	N.A.
JAN 89	N.A.	N.R.	N.R.	N.R.	ND	ND	N.R.	ND	N.A.	N.A.	N.A.
JUN 89	ND	N.R.	N.R.	N.R.	1	2	N.R.	6	N.A.	N.A.	N.A.
JAN 90	ND	N.R.	N.R.	N.R.	ND	2	N.R.	ND	N.A.	N.A.	N.A.
JUN 94	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	N.A.	N.A.	N.A.
AUG 94	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	1.4	14.3	ND(.01)
MW-4/											
JUL 86	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
SEP 86	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
NOV 86	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
FEB 87	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
MAR 87	N.A.	N.R.	N.R.	N.R.	0.5	1.0	N.R.	1.6	N.A.	N.A.	N.A.
SEP 87	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
FEB 88	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
JAN 89	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
JUN 89	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
JAN 90	ND	N.R.	N.R.	N.R.	ND	ND	N.R.	1.9	N.A.	N.A.	N.A.
JUN 94	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	N.A.	N.A.	N.A.
AUG 94	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	6.4	ND(.01)

TABLE 1. RESULTS OF CHEMICAL ANALYSES OF GROUNDWATER SAMPLES

WELL NUMBER/ SAMPLE DATES	1,1-DCE (µg/l)	1,1-DCA (µg/l)	CFM (µg/l)	1,2-DCA (µg/l)	1,1,1-TCA (µg/l)	TCE (µg/l)	1,1,2-TCA (µg/l)	PCE (µg/l)	CADMIUM (µg/l)	CHROMIUM (µg/l)	CYANIDE (mg/l)
DRINKING WATER STANDARD	6	5	N.E.	0.5	200	5	32	5	10	50	N.E.
MW-7/											
JUL 86	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
SEP 86	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
NOV 86	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
FEB 87	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
MAR 87	N.A.	N.R.	N.R.	N.R.	48	456	N.R.	81	N.A.	N.A.	N.A.
SEP 87	N.A.	N.R.	N.R.	N.R.	56	200	N.R.	93	N.A.	N.A.	N.A.
FEB 88	N.A.	N.R.	N.R.	N.R.	8.2	152	N.R.	74	N.A.	N.A.	N.A.
JAN 89	N.A.	N.R.	N.R.	N.R.	ND	200	N.R.	150	N.A.	N.A.	N.A.
JUN 89	42	N.R.	N.R.	N.R.	50	66	N.R.	60	N.A.	N.A.	N.A.
JAN 90	440	N.R.	N.R.	N.R.	1.6	400	N.R.	160	N.A.	N.A.	N.A.
JUN 94	40	ND(1)	1.8	ND(1)	ND(1)	280	2.8	42	N.A.	N.A.	N.A.
AUG 94	140	6.2	2.4	1.7	ND(1)	310	17	60	1.3	115	0.76
MW-8/											
JUL 86	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
SEP 86	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
NOV 86	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
FEB 87	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
MAR 87	N.A.	N.R.	N.R.	N.R.	32	180	N.R.	110	N.A.	N.A.	N.A.
SEP 87	N.A.	N.R.	N.R.	N.R.	3	47	N.R.	27	N.A.	N.A.	N.A.
FEB 88	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.A.	N.A.	N.A.
JAN 89	N.A.	N.R.	N.R.	N.R.	ND	90	N.R.	80	N.A.	N.A.	N.A.
JUN 89	180	N.R.	N.R.	N.R.	30	400	N.R.	320	N.A.	N.A.	N.A.
JAN 90	100	N.R.	N.R.	N.R.	ND	160	N.R.	56	N.A.	N.A.	N.A.
JUN 94	16	ND(1)	ND(1)	ND(1)	ND(1)	34	ND(1)	6.8	N.A.	N.A.	N.A.
AUG 94	ND(1)	9.4	ND(1)	ND(1)	ND(1)	22	ND(1)	5.5	4.8	135	ND(.01)

TABLE 1. RESULTS OF CHEMICAL ANALYSES OF GROUNDWATER SAMPLES

WELL NUMBER/ SAMPLE DATES	1,1-DCE (µg/l)	1,1-DCA (µg/l)	CFM (µg/l)	1,2-DCA (µg/l)	1,1,1-TCA (µg/l)	TCE (µg/l)	1,1,2-TCA (µg/l)	PCE (µg/l)	CADMIUM (µg/l)	CHROMIUM (µg/l)	CYANIDE (mg/l)
DRINKING WATER STANDARD	6	5	N.E.	0.5	200	5	32	5	10	50	N.E.
MW-11/											
JUL 86	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.R.	N.A.	N.A.
SEP 86	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.R.	N.A.	N.A.
NOV 86	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.R.	N.A.	N.A.
FEB 87	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.R.	N.A.	N.A.
MAR 87	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.R.	N.A.	N.A.
SEP 87	N.A.	N.R.	N.R.	N.R.	N.A.	N.A.	N.R.	N.A.	N.R.	N.A.	N.A.
FEB 88	N.A.	N.R.	N.R.	N.R.	ND	26	N.R.	ND	N.R.	N.A.	N.A.
JAN 89	N.A.	N.R.	N.R.	N.R.	ND	20	N.R.	200	N.R.	N.A.	N.A.
JUN 89	50	N.R.	N.R.	N.R.	ND	270	N.R.	10	N.R.	N.A.	N.A.
JAN 90	231	N.R.	N.R.	N.R.	ND	50	N.R.	5.5	N.R.	N.A.	N.A.
JUN 94	ND(1)	ND(1)	1.8	ND(1)	ND(1)	86	ND(1)	7	N.A.	N.A.	N.A.
AUG 94	ND(1)	16	ND(1)	ND(1)	ND(1)	49	ND(1)	4.7	ND(1)	13.0	ND(.01)

NOTES:

(1) 1,1-DCE means 1,1-dichloroethene
1,1-DCA means 1,1-dichloroethane
CFM means chloroform
1,2-DCA means 1,2-dichloroethane
1,1,1-TCA means 1,1,1-trichloroethane
TCE means trichloroethene
1,1,2-TCA means 1,1,2-trichloroethane
PCE means tetrachloroethene

TABLE 1. RESULTS OF CHEMICAL ANALYSES OF GROUNDWATER SAMPLES

(2) Drinking water standards are Maximum Contaminant Levels (MCLs) as established by the United States Environmental Protection Agency or Drinking Water Action Levels as established by the California Environmental Protection Agency.

(3) N.E. means that drinking water standard (MCL or Action Level) has not been established.

(4) ND( ) means not detected at the concentration shown in parentheses.

(5) N.A. means analyte was not analyzed for.

(6) N.R. means either analyte was not analyzed for or a value was not reported.

TABLE 2

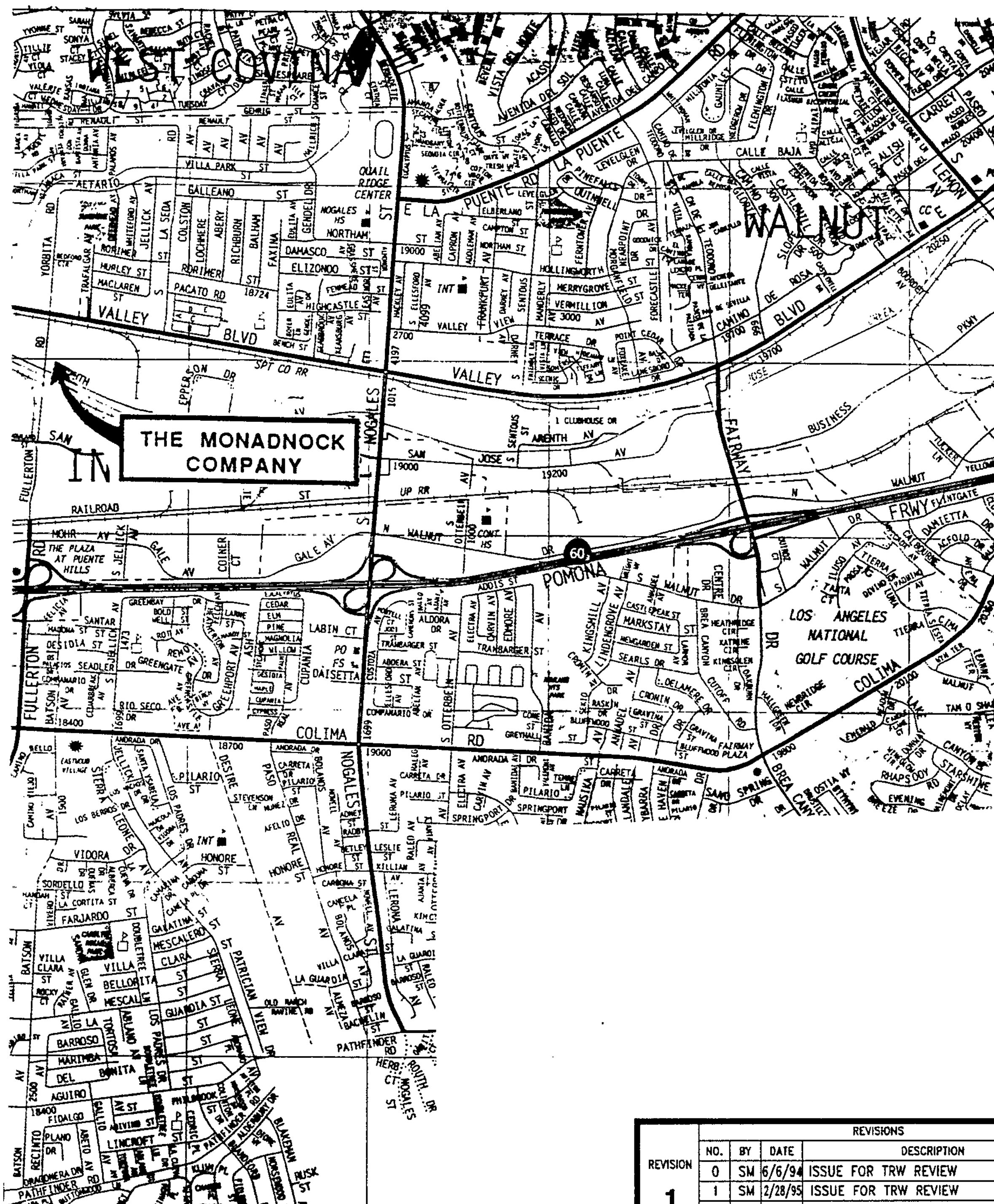
HYDROPUNCH SAMPLE ANALYTICAL RESULTS

SAMPLE ID	CONCENTRATION OF ANALYTE DETECTED (μg/l)					
	1,1-DCE	1,1-DCA	1,1,2-TCA	1,1,1-TCA	TCE	PCE
HP-1	66	3.6	1.4	ND(1)	140	49
HP-2	300	4.3	2.2	ND(1)	190	22
HP-1 RINSE	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
HP-2 RINSE	2.1	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
TRIP BLANK	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)

NOTES:

1) 1,1-DCE means 1,1-dichloroethene
   1,1-DCA means 1,1-dichloroethane
   1,1,2-TCA means 1,1,2-trichloroethane
   1,1,1-TCA means 1,1,1-trichloroethane
   TCE means trichloroethene
   PCE means tetrachloroethene

2) ND( ) means not detected at the detection limit shown in parentheses.



REVISION	NO.	BY	DATE	DESCRIPTION
				REVISIONS
1	0	SM	6/6/94	ISSUE FOR TRW REVIEW
	1	SM	2/28/95	ISSUE FOR TRW REVIEW

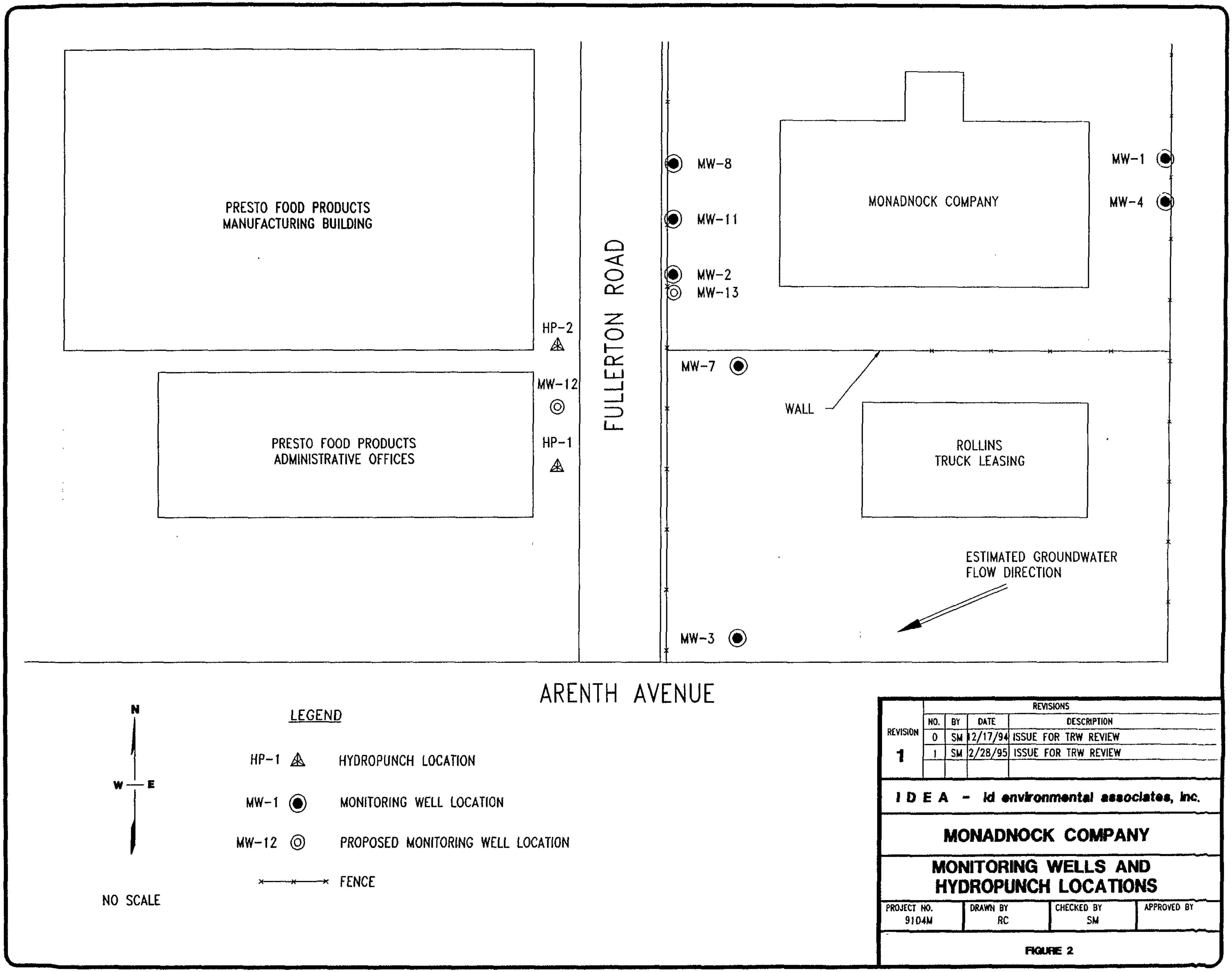
I D E A - id environmental associates, inc.

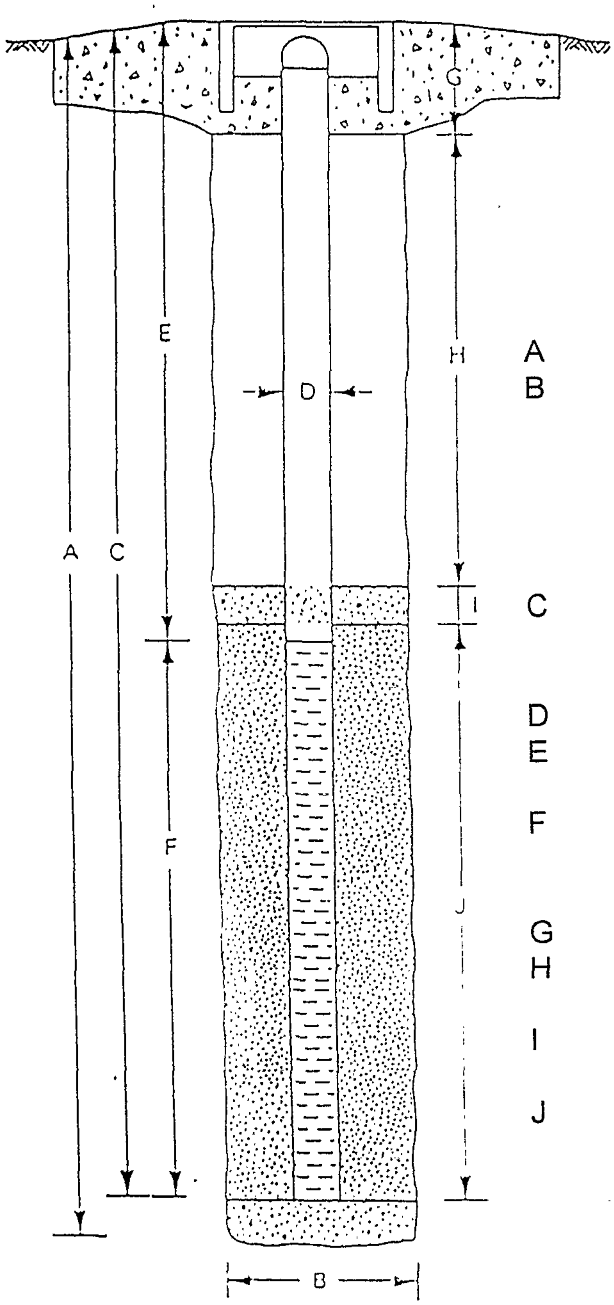
MONADNOCK COMPANY

SITE LOCATION

PROJECT NO.	DRAWN BY	CHECKED BY	APPROVED BY
9104M	RC	SM	

FIGURE 1


PRESTO FOOD PRODUCTS
MANUFACTURING BUILDING
PRESTO FOOD PRODUCTS
ADMINISTRATIVE OFFICES
HP-2
MW-12
HP-1
FULLERTON ROAD
MW-8
MW-11
MW-2
MW-13
MONADNOCK COMPANY
MW-1
MW-4
MW-7
WALL
ROLLINS
TRUCK LEASING
ESTIMATED GROUNDWATER
FLOW DIRECTION
MW-3
ARENTH AVENUE
N
W
E
NO SCALE
LEGEND
HP-1 HYDROPUNCH LOCATION
MW-1 MONITORING WELL LOCATION
MW-12 PROPOSED MONITORING WELL LOCATION
FENCE
REVISIONS
REVISION 1
NO. BY DATE DESCRIPTION
0 SM 12/17/94 ISSUE FOR TRW REVIEW
1 SM 2/28/95 ISSUE FOR TRW REVIEW
I D E A - id environmental associates, inc.
MONADNOCK COMPANY
MONITORING WELLS AND
HYDROPUNCH LOCATIONS
PROJECT NO. 9104M
DRAWN BY RC
CHECKED BY SM
APPROVED BY
FIGURE 2



WELL MW-12

BORING

A	Total Depth (feet)	51
B	Boring Diameter (inches)	8
	Drilling Method	Hollow Stem Auger

WELL CONSTRUCTION

C	Casing Length (feet)	50
	Casing Material	PVC - Blank Casing; Stainless Steel - Screen
D	Casing Diameter (inches)	4
E	Depth to Top of Perforations (feet)	20
F	Perforated Length (feet)	30
	Perforation Type	Wire Wrap Screen
	Perforation Size (inches)	To Be Selected
G	Surface Completion	Concrete (5 feet)
H	Backfill (feet)	11
	Backfill Material	Volclay Grout
I	Filter Pack Bridge (feet)	2
	Bridge Material	Bentonite Chips
J	Filter Pack (feet)	32
	Filter Pack Material	Monterey Sand

REVISION	REVISIONS			
	NO.	BY	DATE	DESCRIPTION
0	0	SM	2/28/95	ISSUE FOR TRW REVIEW

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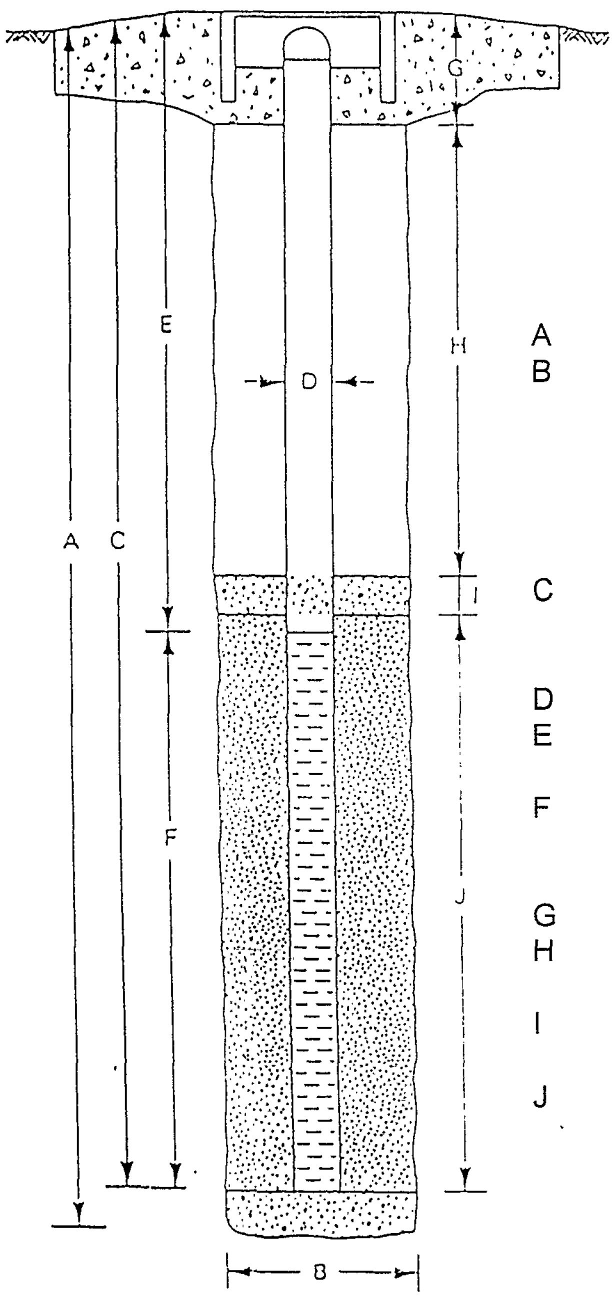
MONADNOCK COMPANY

CONSTRUCTION DETAILS FOR WELL MW-12

PROJECT NO.	DRAWN BY	CHECKED BY	APPROVED BY
9104M	RC	SM	

FIGURE 3



WELL MW-13

BORING

A	Total Depth (feet)	61
B	Boring Diameter (inches)	8
	Drilling Method	Hollow Stem Auger

WELL CONSTRUCTION

C	Casing Length (feet)	60
	Casing Material	PVC - Blank Casing; Stainless Steel - Screen
D	Casing Diameter (inches)	4
E	Depth to Top of Perforations (feet)	20
F	Perforated Length (feet)	40
	Perforation Type	Wire Wrap Screen
	Perforation Size (inches)	To Be Selected
G	Surface Completion	Concrete (5 feet)
H	Backfill (feet)	11
	Backfill Material	Volclay Grout
I	Filter Pack Bridge (feet)	2
	Bridge Material	Bentonite Chips
J	Filter Pack (feet)	42
	Filter Pack Material	Monterey Sand

REVISION	REVISIONS			
	NO.	BY	DATE	DESCRIPTION
0	0	SM	2/28/95	ISSUE FOR TRW REVIEW

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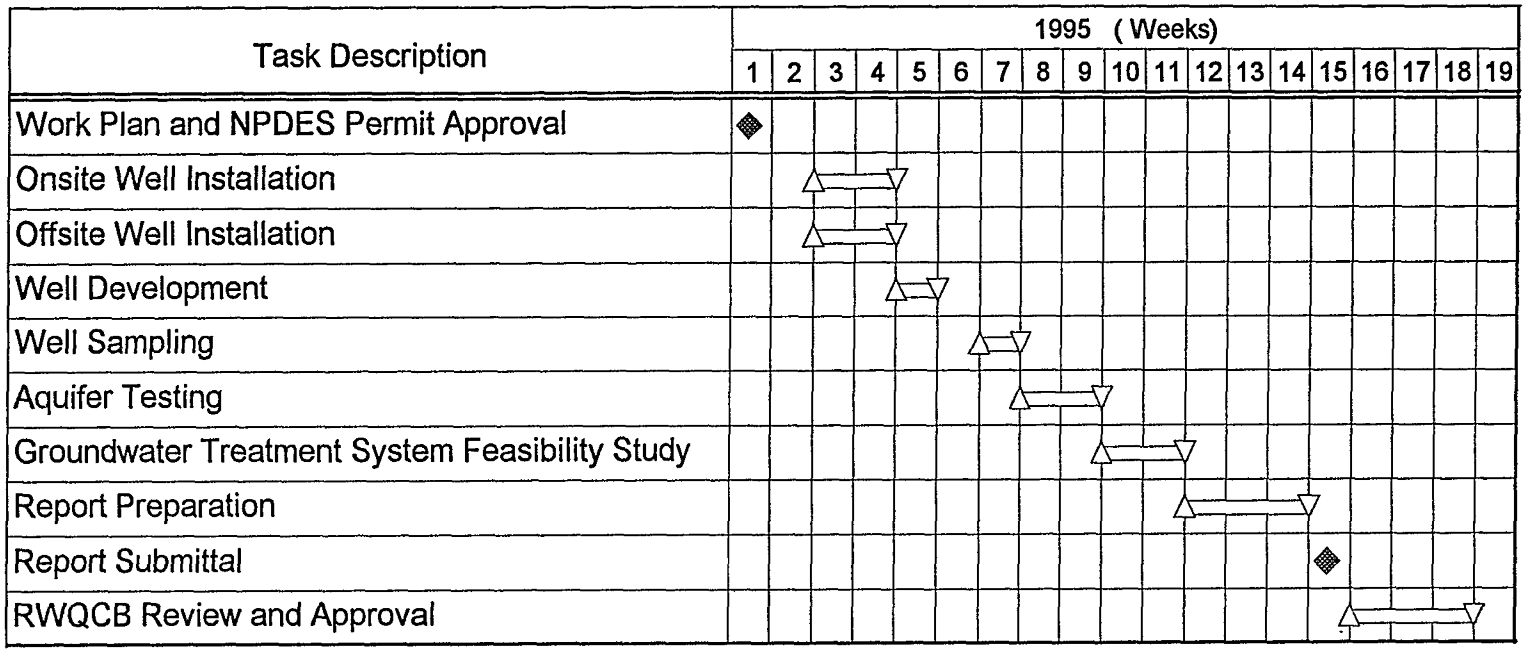
MONADNOCK COMPANY

CONSTRUCTION DETAILS FOR WELL MW-13

PROJECT NO.	DRAWN BY	CHECKED BY	APPROVED BY
9104M	RC	SM	

FIGURE 4



REVISION	REVISIONS			
	NO.	BY	DATE	DESCRIPTION
0	0	SM	2/28/95	ISSUE FOR TRW REVIEW

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MONADNOCK COMPANY

SCHEDULE

PROJECT NO.	DRAWN BY	CHECKED BY	APPROVED BY
9104M	RC	SM	

FIGURE 5

APPENDIX A

GROUNDWATER MONITORING WELL INSTALLATION, DEVELOPMENT, AND SAMPLING PROCEDURES

APPENDIX A

GROUNDWATER MONITORING WELL INSTALLATION, DEVELOPMENT, AND SAMPLING PROCEDURES

Well Installation

The wells will be drilled using a drill rig equipped with 8-inch diameter hollow stem augers. The onsite well boring (Well MW-13) will be continuously cored during drilling to provide continuous samples for lithologic evaluation. For the offsite well (Well MW-12), soil samples will be collected for lithologic evaluation at five-foot intervals using a drive sampler.

The wells will be constructed inside the hollow stem augers using 4-inch diameter PVC blank casing and stainless steel screen. The screened intervals will extend from approximately 20 to 50 feet below grade in Well MW-12, and approximately 20 to 60 feet below grade in Well MW-13.

Prior to casing placement, the aquifer materials will be characterized using a field sieve analysis to properly select the appropriate filter pack and screen. After placement of the casing, the filter pack will be installed to extend a minimum of two feet above the top of the screened interval. Approximately two feet of bentonite chips will be placed above the filter pack to act as a seal. Cement/bentonite grout will be used above the bentonite chips to approximately five feet below the ground surface. The final five feet will be completed using a cement seal. A locking, traffic-rated cover will be placed over each well.

Well Development

The wells will be developed by pumping and surging to remove fines from the filter pack and well screen. Measurements of temperature, pH, conductivity, and observations of turbidity will be made during well development. Development will be considered complete when the turbidity of the purged water appears to have decreased to the minimum level that can be practically achieved.

Well Sampling

Well purging will be accomplished using either a submersible pump or a bailer. Measurements of temperature, electrical conductivity, and pH will be recorded at periodic intervals during purging of the wells. Where practical, a minimum of three casing volumes of groundwater will be purged from each well prior to sample collection. Purging will be considered complete when the following conditions are met:

- A minimum of three casing volumes of groundwater has been removed from the well.

- Temperature, electrical conductivity, and pH are stabilized to within 10 percent for successive measurements.

Water level measurement, well purging, and well sampling data will be recorded for each well on a water sample log.

Purging equipment will be cleaned before the purging of each well to minimize cross-contamination. The procedures to be used for equipment cleaning are outlined below:

- Deionized water wash with detergent

- Rinse twice with deionized water

- Air dry

Groundwater levels will be measured in each well before and after purging. Groundwater samples will be collected from each well only after at least one of the following conditions has been met:

- The groundwater level has recovered to at least 80 percent of its level measured before purging had begun.

- A minimum of three hours has elapsed since the conclusion of well purging.

Groundwater samples will be collected with a Teflon bailer, transferred to labeled 40-milliliter VOA vials, and stored in an ice-cooled chest. Each of the VOA vials will be completely filled so as not to allow air bubbles to be trapped in the vial. A duplicate sample will be collected from each well, though in most instances only one sample will be analyzed by the laboratory (the duplicate sample will be for emergency and/or confirmation purposes). Before sample collection, the Teflon bailer will be cleaned using procedures similar to those for the well purging equipment.

To identify each vial, sample labels will be used; each label will contain the project name, sample identification, sample number, date, and sampler's signature. Each sample vial will be placed in a sealable plastic bag and stored in a portable ice chest cooled with ice. Samples will be delivered to the analytical laboratory within 24 hours of collection. Chain-of-custody procedures, including the use of sample identification labels and chain-of-custody forms, will be used for tracking the collection and shipment of the samples.

APPENDIX B

HEALTH AND SAFETY PLAN

IDEA

id environmental associates, inc.

HEALTH AND SAFETY PLAN

MONADNOCK COMPANY FACILITY
18301 ARENTH AVENUE
CITY OF INDUSTRY, CALIFORNIA

Prepared for:

TRW Inc.
1900 Richmond Road
Cleveland, Ohio 44124

February 1995

11325 Goldenrod Ave. • Fountain Valley, CA 92708 • (714) 839-1744

HEALTH AND SAFETY PLAN

MONADNOCK COMPANY FACILITY
18301 ARENTH AVENUE
CITY OF INDUSTRY, CALIFORNIA

Project Manager: Steve Mulligan

Site Safety Officer: Steve Mulligan, Linda Niemeyer, Jeff Gwinn, or Steve Dickey

Start Date: April 1, 1995

Expiration Date: December 31, 1995

APPROVALS:

Stephen Mulligan ______ 3/4/95
Project Manager ______ Date

Stephen Mulligan ______ 3/4/95
Site Safety Officer ______ Date

The following individuals indicate by their signatures that they understand the contents of this health and safety plan.

NAME	ORGANIZATION

HEALTH AND SAFETY PLAN

MONADNOCK COMPANY FACILITY
18301 ARENTH AVENUE
CITY OF INDUSTRY, CALIFORNIA

1.0 INTRODUCTION

This health and safety plan (HSP) presents health and safety requirements and guidelines for performance of work for the TRW Inc. (TRW) Monadnock project located at 18301 Arenth Avenue in City of Industry, California. The HSP is prepared to comply with applicable sections of 29 CFR 1910.120 and is for use exclusively by employees of TRW, ID Environmental Associates, Inc. (IDEA), and their subcontractors. This HSP shall not be used for work other than that described in Section 3.0, nor shall it be modified or used after the expiration date without written approval by the Project Manager (PM). This HSP is not valid unless it is signed and dated by the PM and Site Safety Officer (SSO).

General health and safety requirements in HSPs prepared by subcontractors must be at least as stringent as those contained in this HSP. In addition, subcontractors' health and safety requirements for field activities covered in their HSP must be at least as stringent as those contained in this HSP.

The PM has overall responsibility for implementing this HSP. The SSO reports to the PM, directs day-to-day health and safety activities in the field, and must be present at the work site whenever work is being performed at the site by employees of IDEA or its subcontractors. The PM and SSO have the authority to suspend work when the health or safety of field personnel or the public is threatened and to remove individuals from the site for engaging in activities that jeopardize the health or safety of themselves or others.

2.0 SITE INFORMATION

The Monadnock project relates to a former TRW facility that manufactured aerospace fasteners. The facility is presently owned by a different owner and continues to manufacture aerospace fasteners. The Monadnock site is located at 18301 Arenth Avenue in City of Industry, California. It has been determined that chlorinated organic compounds, including tetrachloroethene (PCE), trichloroethene (TCE), 1,1,1-trichloroethane (1,1,1-TCA), 1,1-dichloroethane (1,1-DCA), and 1,1-dichloroethene (1,1-DCE), are present in groundwater beneath the site.

3.0 DESCRIPTION OF WORK

TRW proposes to conduct a groundwater treatment system feasibility study for the Monadnock site. The purpose of the study is to evaluate potential treatment options for

for groundwater impacted by chlorinated organic compounds originating at the Monadnock site. To this end, the following tasks will be undertaken:

- One groundwater monitoring well (Well MW-13) will be installed at the Monadnock property.

- One groundwater monitoring well (Well MW-12) will be installed at the Presto Food Products site, located west of the Monadnock property across Fullerton Road.

- Aquifer testing (pump test or slug tests) will be conducted.

- Groundwater sampling will be conducted in the onsite wells at the Monadnock site and the offsite well at Presto Food Products.

4.0 ASSESSMENT OF HAZARDS

4.1 Chemical Exposure

Several of the chemicals detected in soil and groundwater samples collected at the Monadnock site are known animal carcinogens and may have the potential to be human carcinogens.

4.1.1 Inhalation Exposure

The major route for exposure to chlorinated organic compounds is by inhalation. The lipid solubility of the particular compound dictates how quickly and completely the organic vapor will be absorbed from the lungs and enter the bloodstream. Signs of acute intoxication from organic compound exposure are central nervous system disturbances such as disorientation, euphoria, giddiness, and confusion which can lead to convulsions, unconsciousness, and death with extended exposure. Low-level, and often surprisingly short, exposures to organic compounds can cause liver damage and induction of liver microsomal enzymes, which can influence how the body handles other chemicals.

4.1.2 Dermal Exposure

The second major route of exposure to organic compounds is the skin. As with inhalation, the lipid solubility of the chemical determines the degree of absorption of the chemical in contact with skin. Dermal absorption may occur from a soil or aqueous medium.

4.1.3 Ingestion Exposure

Organic contaminants can enter the body by ingestion. Therefore, drinking and eating will not be allowed in the limited access area on the site. Prior to eating or before leaving the site, personnel will wash their hands and faces.

4.2 Fire Hazard

Explosive levels of organic compounds potentially could be encountered during groundwater sampling operations. For this reason, an open flame within a radius of 25 feet from an open groundwater monitoring well will not be allowed. A fire extinguisher will also be provided.

5.0 RISK EVALUATION/RISK MANAGEMENT

5.1 Dermal Absorption of Chemicals

Dermal exposure to contaminants will be minimized by the use of the required personnel protective equipment (see Section 8.1.1).

6.0 HEALTH AND SAFETY GUIDELINES FOR SUBCONTRACTORS

All subcontractors and operators are responsible for ensuring that their respective employees comply with all federal, California, and/or local health and safety standards, laws, and rules. The SSO for TRW and IDEA will assist in these matters, but it is the responsibility of the subcontractors to ensure compliance.

7.0 GENERAL HEALTH AND SAFETY REQUIREMENTS

The names of all TRW, IDEA, and subcontractor employees that perform work on the site must be recorded and the record maintained in the health and safety file of the project administration office.

7.1 Site Health and Safety Officer

The PM has overall responsibility for site health and safety. The SSO is responsible for assisting the PM in carrying out the health and safety requirements detailed in this plan. However, the SSO has the authority to halt work or dismiss people from the site if they do not adhere to this plan.

- The SSO will maintain a field logbook. Information recorded in the logbook will include such items as working hours, names of people entering and leaving the site, and all other information relevant to health and safety at the site.

- The SSO will maintain a list of addresses and telephone numbers of emergency assistance units (ambulance service, police, and hospitals), and will inform other members of the field team of the existence and location of this list.

7.2 Safety Briefing

Before onsite work commences, all TRW, IDEA, and subcontractor employees assigned to work on the site must be briefed by the SSO on the site-specific health and safety requirements contained in this plan. The health and safety officer giving the briefing should test each worker's knowledge and understanding of the provisions of this HSP and shall not allow anyone who does not appear to understand the provisions to perform work in exclusion areas. The dates of briefing sessions and attendees must be recorded and the records maintained in the health and safety file of the project administration office.

7.3 Distribution of HSP

Before the work begins, a copy of this HSP must be provided to each TRW, IDEA, and subcontractor employee assigned to work at the site, as well as to an authorized representative of each firm contracted by TRW and IDEA to perform work on site. Individuals assigned to work at the site must acknowledge receipt of the plan and agree to comply with its provisions in writing.

7.4 Incident Reporting

Injuries, exposures, illnesses, safety infractions, and other incidences must be reported to the PM within 24 hours of occurrence.

7.5 Visitor Clearances

Visitors will not be allowed within 25 feet of open groundwater monitoring wells, unless they comply with the safety requirements of this plan. Where necessary, barrier tape will be used to mark the area visitors are not to enter.

8.0 SITE-SPECIFIC HEALTH AND SAFETY REQUIREMENTS

8.1 Safety Equipment Requirements

8.1.1 Personnel Protection

The following items may be needed for personnel protection and must be available at the site:

- Hard hat
- Boots, steel-toed butyl/neoprene
- Gloves, butyl/neoprene
- Respirator (with organic vapor cartridges)
- Eye protection (safety glasses)
- First aid kit
- Fire extinguisher

8.2 Personnel and Equipment Decontamination

Prior to eating or drinking, personnel will wash their hands and faces with soap and water. All contaminated water will be left on site.

8.3 Eating/Drinking/Smoking

Eating, drinking, or smoking will not be allowed within the 25-foot Limited Access Zone.

9.0 RESPONSIBLE INDIVIDUALS

Project Manager (PM):

Steve Mulligan
ID Environmental Associates, Inc.
11325 Goldenrod Avenue
Fountain Valley, California 92708
(714) 839-1744

Site Safety Officer (SSO):

Steve Mulligan, Linda Niemeyer, Jeff Gwinn, or Steve Dickey
ID Environmental Associates, Inc.
11325 Goldenrod Avenue
Fountain Valley, California 92708
(714) 839-1744

10.0 NEAREST EMERGENCY MEDICAL FACILITY

Nearest Facility:

German Medical Group
18053 East Valley Boulevard
City of Industry, California

(818) 965-0939

Directions to facility:

1) Go north on Fullerton Road.

2) Left on Valley Boulevard.

3) German Medical Group is on right, approximately 1/2 mile from Fullerton Road.